# Template: Proposal for an Africa RISING R4D Scaling Partnership

Decision Support Tools for Improved Soil Fertility Management in Various Cropping systems of Ethiopia

## Background and Justification

*Describe the nature of the innovations to be scaled*

Recognition that there is a huge yield gap in the country, largely due to soil fertility decline, limited access to fertilizers, lack of appropriate fertilizer blends, poor soil crop integrated management

Encouraging effort by the government, but farmers are not yet ripping the benefits

Fertilizer plants are in place but the correct blends for each region not clear, need more ground truthing and testing

Our preliminary work, based on evidence generated from the wheat-based cropping systems

A national dialogue was initiated to reassess the current ATA recommendations,

Limited evidence on profitable and efficient crop response to fertilizer blends in other major cropping systems (Maize-based, Teff-based, Enset-Coffee based fertilizer recommendations), maybe more work is needed in identification of appropriate varieties;

Our DST developed through AfricaRISING is promising and ready for scaling in other cropping systems

The immediate need to have Decision support tools to guide farmers, extension agents to guide farm-level decision making and policy makers to guide investments

## Benefits

*What benefits are anticipated from the widespread uptake of these innovations?*

* Increasing land productivity, improving income and food security
* Reducing cost of farm production, enhancing resource use efficiency
* Reducing cost of importing large scale fertilizers for the country
* Increasing biomass in the system, for livestock feed and Carbon sequestration and other purposes

## Research Questions

*Specify the research questions that will backstop the partnership. It is accepted that these might evolve over the lifespan of the partnership.*

*What types of sets of data is available in the country regarding soil fertility management, particularly crop/varietal response to chemical and organic fertilizers? Who holds it? What are the strategies to bring them together?*

*How does soil fertility management, particularly fertilizer blends and nutrient types differ across cropping systems, production objectives, social categories and landscape positions?*

*What are the social, institutional and biophysical factors driving adoption of soil fertility management interventions, particularly fertilizers (organic and inorganic) and fertilizer trees demands across landscapes? What remedies are required to amend these barriers?*

*How do we integrate fertilizer/ soil fertility decision support tools into the day-to-day activities of the BoA, development actors? Capacity building? Guidelines?*

*Who are the change agents and policy influence groups to influence soil fertility -related policies?*

*What are the policy incentives in the different regions for farmers to adopt different combinations of fertilizers/integrated soil fertility management?*

## Development Partnerships

*List the partners who will be active, describe the contribution that they will make and how Africa RISING will support / backstop this with the research proposed. Also consider the comparative advantage offered by your partnerships. Make sure that you carefully consider roles and responsibilities of all partners.*

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| --- | --- | --- |
| Name | Potential roles |  |
| Ethiopian Institute of Agriculture (EIAR) and RARIs of the regions | Generation of on-farm data; validation experiments |  |
| Ministry of Agriculture, ATA; Bureau of Agriculture of the different regions | Testing the Decision Support Tools with communities; Validation; Feedback |  |
| Universities | Generating complementary evidence/ data; Capacity building |  |
| CG centres, ICRISAT, CIAT, ICRAF, CIMMYT, IWMI, Bioversity | Critical scientific inputs in generating gap filling data; Further development of DST |  |
| Major development partners; e.g. GiZ, USAID | Increasing investment in targeted testing and scaling the DSTs |  |

## Impact Pathway

*Ensure that the contribution to FtF goals (e.g. improved food security, better health and nutrition, inclusive agriculture sector growth) are stated*

|  |  |  |  |
| --- | --- | --- | --- |
| Activities | Outputs | Outcomes | Impact |
| Creating/ strengthening/ facilitating/ soil-related networks / taskforces | Creating collective understanding; collective action | Researchers will use a similar methodology/approach across the country  Development agents will have easy to use manuals and guidelines  Policy makers are adjusting their policies towards soil fertility management, fertilizer blending and fertilizer imports | Improved nutrition through fertilizer-enhanced biofortification |
| Inventory and landscaping the available country wide data on soil fertility management, fertilizer response, organic and inorganic trials | Data Set |  |
| Cropping system based crop response on-farm experiments (including variety/fertilizer interactions) | Comprehensive Data for DST | Increasing crop yield at farm and landscape scales for enhancing food security and sustainable productivity |
| Development of draft decision support tools, customised and adjustable, at farm and landscape scales | Easy to use DST |  |
| Validation of DST at Scale |  |  |
| Institutionalization of the DST at regional and national scales | Policy brief, with evidence |  |

## Targets / Zone of Influence

*How many potential beneficiaries are out there? How many do you hope to materially impact on? Where are they?*

Reaching at least 2 million people with decision tools for farm-level intensification; particularly in Wheat-based cropping systems where we have already evidence at hand;

High potential for country-wide policy shift, reaching ten of millions

## Arrangements Required for Monitoring and Evaluation

*How will you generate and present the evidence that your partnership has been successful?*

Situation analysis for establishing current benefits from applying fertilizer

Monitoring which institutions are using/ adapting/ modifying the tools

Evaluating the potential effects/ benefits at kebele/ district and Zonal scales

## Communications and Knowledge Management / Transfer

*What arrangements will you put in place to communicate your activities and their benefits? What knowledge specific products and activities will you need to implement to support this.*

*Client oriented communication tools and products developed*

*Easy to use guidelines, procedures*

*Forums / documentary / video clips/ Websites*

*Publications, manuals, flyers*

*Workshops, field visits, cross community exchange visits*